intact, will be strictly carried out. No doubt a considerable number of duplicates will be eliminated, and, according to the wish of the donor, of these a complete set has to be transmitted to the Museum of Comparative Zoology of Harvard College, whilst the remainder are to be utilised for the benefit of the ornithological collection generally.

Ornithologists need not go many years back in recalling to their memory the extent of the collection which the late Mr. G. R. Gray had arranged in such a handy fashion in and about his study in the old building at Bloomsbury. What was then regarded a good reference collection has since been enriched by the addition of the Wallace collection from the Indian Archipelago, Capt. Pinwill's Malayan birds, Sharpe's African collection, the Gould collection, Salvin and Godman's European, Australian, and American collections, the Sclater collection, and now by this immense collection from every part of the Indian Empire. Years of unremitting labour will be required to get these vast materials into order and to work them out in a manner which will satisfy the aims of so advanced a branch of science as ornithology is at the present day.

ALBERT GÜNTHER

THE FORSTER HERBARIUM

BOTANISTS will learn with pleasure that this herbarium, a portion of the collections of Cook's second voyage, has been acquired by exchange from the Liverpool Corporation for the Kew Herbarium; and it will be incorporated in the general collection. From the introduction to the "Catalogue of Plants" in the Botanic Gardens at Liverpool, published in 1808, it appears that the proprietors of that establishment possessed, at that date, about 3000 specimens of dried plants, "collected by the late Dr. Forster in his voyages to the South Seas, with large and valuable contributions from his friends and correspondents." How these plants came into their possession is uncertain, but they could hardly have been presented to them by Mr. Shepherd, the Curator, as stated by Sir Joseph Hooker in the introductory essay to his "Flora Novæ-Zealandiæ," or his name would almost certainly have been mentioned as the donor. At least this may be inferred, because on the very next page a very high tribute is paid to Mr. John Shepherd for his services to the Garden. Be that as it may, the collection will shortly be accessible to botanists generally, thanks to the perseverance of Sir Joseph Hooker and the sensible view of the matter taken by the present members of the Corporation when it was represented to them that these dried plants were practically useless where they were, but would be valuable at a botanical establishment like Kew. This act of the Corporation deserves to be recorded, because some thirty years ago, when Sir Joseph Hooker was engaged writing his "Flora Novæ-Zealandiæ," he applied to the then custodians of the collection to transmit it temporarily to Kew for comparison and publication, and his request was refused.

Botanical investigations in connection with the *Challenger* expedition again brought to mind the existence of this interesting collection at Liverpool, and it was determined to make another effort to rescue it from oblivion, which was fortunately successful. A few words respecting the botanical collections of Cook's voyages generally, and of this one in particular, will be welcome to those interested in botany. Sir Joseph Banks and Dr. Solander accompanied Capt. Cook on his first voyage round the world; John Reinhold Forster and George Forster, father and son, were the botanists of the second voyage (1772-75), and Mr. Anderson, the surgeon of the expedition, collected a little on the third voyage. From a statement in Sparmann's "Travels in South Africa," it seems that Forster the elder undertook the duties of naturalist to the expedition for the sum of 4000*l.*, and he took his son with him, then only seventeen years old, as an assistant. On arriving at the Cape of Good Hope they fell in with Sparmann, who, at the instance and expense of Forster, was added to the scientific staff, and continued with them until the return to the Cape in 1775. Considerable collections of plants were made in New Zealand, many parts of Polynesia, and the extreme south of America, and smaller collections in some of the Atlantic Islands, including St. Helena, Cape Verd Islands, and Canaries. On returning to England the Forsters soon commenced publishing the botanical results of the expedition, and an authenticated set of all the published plants at least was deposited in the British Museum. The Cape plants, however, which they did not publish, are apparently not represented there. The first botanical work, "Characteres Genera Plantarum," appeared in 1776, and the title-page bears the names of both father and son, and this was the only one published in England. For the rest, the botany was done by the son alone. His "Florula Insularum Australium Prodromus" appeared at Göttingen in 1786, and "De Plantis Esculentis Insularum Oceani Australis" at Berlin in the same year, followed by "De Plantis Magellanicis et Alanticis" at Göttingen in 1787.

These works, we believe, constitute the whole of the published botany of the expedition, and, though very meagre, are extremely interesting, being the foundation of our knowledge of New Zealand, Antarctic, and Polynesian vegetation. The collection now acquired for Kew is excellently preserved, and the plants mostly named and localised. It comprises altogether 1359 species, 785 of which were collected on the voyage with Cook, and the rest, from various parts of the world, are probably some of those alluded to above as having been presented to Forster by his friends. The collection includes a large proportion of the plants published by the Forsters, but it is not complete. Roughly, there are 187 species from Polynesia, 119 from New Zealand, 21 from the extreme south of America, 23 from the Atlantic Islands, including all those described by Forster from St. Helena, and 9 from Australia. Besides the foregoing, which are all phanerogams, there are 36 ferns, but they include only a small portion of the species described by Forster.

In addition to this botanical work George Forster's name appears on the second title-page of the Narrative of the second voyage as joint author with James Cook. He died, a violent death, we believe, at Paris in 1794, four years before the decease of his father. The philosophical writings of the latter, entitled "Observations made during a Voyage round the World," London, 1778, deserve special mention.

W. BOTTING HEMSLEY

THE INTERNATIONAL METEOROLOGICAL COMMITTEE

THIS Committee held its third meeting in Paris at the Ministry of Public Instruction on September 1 to 8. The Meeting was attended by the President, Prof. Wild (Russia); the Secretary, Mr. R. H. Scott; Profs. Buys Ballot (Holland), Hann (Austria), Mascart (France), Mohn (Norway), Dr. Neumayer (Germany), and Prof. Tacchini (Italy). M. de Pinto Capello (Portugal), the only remaining member, was unfortunately unable to be present.

In addition certain gentlemen were present by invitations at some of the meetings, among these we may mention Brigadier-General Hazen (Chief Signal Officer, U.S.A.), Prof. Hildebrandsson (Upsala), and M. Leon Teisserenc de Bort.

The following is a brief notice of the most important subjects discussed, with the action taken on each.

A valuable report on cirrus observations by the Committee appointed at Copenhagen (1882), MM. Capello, Hildebrandsson, and Ley, was submitted, and will be printed.

The subject of Atlantic telegrams was discussed with General Hazen. It was decided to maintain the present

system of reports from ships' logs which has been carried on since Christmas by the Meteorological Offices of France and this country, and to endeavour to improve it.

At the same time a proposal made by M. L. Teisserenc de Bort for the telegraphic transmission of a daily *résumé* of the weather in the New England States was considered. General Hazen expressed perfect readiness to furnish such reports, and it was resolved to procure such telegrams provided the cost of the service could be guaranteed by the European offices which would participate in it.

It was decided to recommend that barometrical observations should be corrected for the force of gravity at lat. 45°.

A letter from General Hazen respecting the reduction of barometer readings to sea-level, which has been lately circulated, was considered, and two memoranda on the subject from Hamburg and St. Petersburg respectively were handed in and will be printed.

It was considered *desirable*, as absolute synchronism in weather observations appears to be unattainable in Europe, that the same hours of local time should be adopted in each country (which would mean a change from 8 a.m. to 7 a.m. in this country).

It was decided that each of the International Reduction Tables (proposed by the Committee at its meeting at Berne in 1880) as did not involve any question which is still in an undecided state (such as, *e.g.*, hygrometrical tables, or tables of sea-level reduction) should be published.

It was decided to recommend that the next Congress should not take place till 1889, and Prof. Mascart stated that probably the French Government would propose that it should be held in Paris.

THE BRITISH ASSOCIATION

JUDGED by the quantity of work which the sections have put through their hands the Aberdeen meeting has been successful almost beyond precedent. Moreover much of this work has been of the best quality. The addresses come up to a very high standard, and in the first four sections, at least, not a few of the papers were really important original contributions to science, while the discussions in Sections A and B on certain great questions in physics and chemistry were a marked and commendable feature—a feature which, it is hoped, will in time become common to all the sections. Mr. Murray's lecture on deep-sea research has been justly considered one of the leading events of the meeting; a full report will appear in our columns.

At the concluding general meeting a deservedly hearty vote of thanks was accorded to the Aberdonians for their abundant hospitality. Birmingham seems determined to make next year's meeting a memorable one; and we may remind our readers that Sir William Dawson, of McGill College, Montreal, will be the President.

The total number of persons who attended the Aberdeen meeting was 2203.

The following is a synopsis of grants of money appropriated to scientific purposes by the General Committee at the Aberdeen meeting. The names of the members who would be entitled to call on the General Treasurer for the respective grants are prefixed :—

A—*Mathematics and Physics*

*Foster, Prof. G. Carey—Electrical Standards	£40
*Stewart, Prof. Balfour—Solar Radiation	20
*Stewart, Prof. Balfour—Meteorological Observations at Chepstow	25
Darwin, Prof. G. H.—Instructions for Tidal Observations	50
*Stewart, Prof. Balfour—Comparing and Reducing Magnetic Observations	40
*Forbes, Prof. G.—Standards of Light	20
*Brown, Prof. Crum—Ben Nevis Observatory	100
*Armstrong, Prof.—Physical and Chemical Bearings of Electrolysis	20

B—*Chemistry*

M'Leod, Prof.—Silent Discharge of Electricity into Atmosphere	£20
*Williamson, Prof. A. W.—Chemical Nomenclature ...	5

C—*Geology*

*Blanford, Mr. W. T.—Fossil Plants of the Tertiary and Secondary Bed	20
Hughes, Prof. T. McK.—Caves of North Wales ...	25
*Etheridge, Mr. R.—Volcano Phenomena in Japan ...	50
*Grantham, Mr. R. B.—Erosion of Sea Coasts	20
*Bannerman, Mr. H.—Volcanic Phenomena of Vesuvius	30
*Evans, Dr. J.—Geological Record	100
*Etheridge, Mr. R.—Fossil Phyllopoda	15

D—*Biology*

*Stanton, Mr. H. T.—Zoological Record	100
*Murray, Mr. J.—Marine Biological Station at Granton..	75
*Lankester—Prof. Ray—Zoological Station at Naples ...	50
Cleland, Prof.—Researches in Food Fishes at St. Andrew's	75
*Cordeaux, Mr. J.—Migration of Birds	30
Cleland, Prof.—Mechanism of Secretion of Urine ...	10

E—*Geography*

Walker, General J. T.—New Guinea Exploration ...	150
Walker, General J. T.—Investigation into Depth of Permanently Frozen Soil in Polar Regions	5

F—*Economic Science and Statistics*

Sidgwick, Prof.—Regulation of Wages under Sliding Scales	10

G—*Mechanics*

Barlow, Mr. W. H.—Effect of Varying Stresses on Metals	10

H—*Anthropology*

Garson, Dr.—Investigation into a Prehistoric Race in the Greek Islands	20
*Tylor, Dr. E. B.—Investigation into North-Western Tribes of Canada	50
*Galton, Mr. F.—Racial Characteristics in British Isles..	10
	£1195

* Reappointed.

REPORTS

Report of the Committee, consisting of Mr. Robert H. Scott (Secretary), Mr. J. Norman Lockyer, Prof. G. G. Stokes, Prof. Balfour Stewart, and Mr. G. J. Symons, appointed for the purpose of co-operating with the Meteorological Society of the Mauritius in their proposed publication of Daily Synoptic Charts of the Indian Ocean from the year 1861. Drawn up by Mr. R. H. Scott.—The Committee forward, for the inspection of the members of the Association, a copy of the charts for the month of March, 1861, with some specimens for January of the same year, and the complete number for February which appeared some years ago. These documents have recently arrived from the Mauritius. As the work has now made decided progress the Committee have applied for and obtained the grant of 50*l.* placed at their disposal by the General Committee. As soon as the requisite documents are received from Dr. Meldrum the Committee will submit a formal account of their expenditure with the necessary vouchers.

Second Report of the Committee, consisting of Prof. Schuster (Secretary), Prof. Balfour Stewart, Prof. Stokes, Mr. G. Johnstone Stoney, Prof. Sir H. E. Roscoe, Capt. Abney, and Mr. G. J. Symons, appointed for the purpose of considering the best methods of recording the direct Intensity of Solar Radiation.—The Committee have come to the following conclusions :—(1) It seems desirable to construct an instrument which would be a modification of Prof. Stewart's actinometer adapted for self-registration—the quantity to be observed being, not the rise of temperature of the enclosed thermometer after exposure for a given time, but the excess of its temperature when continuously exposed over the temperature of the envelope. (2) As the grant to the Committee will not admit of the purchase of a heliostat, it will no doubt be possible to procure the loan of such an instrument, and, by making by its means sufficiently numerous